



The Night Sky

The Newsletter of
The Astronomy Club of Akron

www.acaoh.org

Volume 28 Number 9

September 2006

Club Meeting September 22 — Don't Miss It!

Ramblings of the President

by Dave Jessie

Summer is over already??

What!? It doesn't seem as if it was ever here in the first place! (Wait a minute... I do remember our picnic at 97°F.) Let's try to look at the bright side — night comes earlier in the evening, giving us more time to observe. That's the only good thing I can think of. Wait! Here's another one — our monthly meetings begin again!

Our first meeting following the three-month long summer break will be at the Portage Lakes Kiwanis Civic Center at 725 Portage Lakes Dr. Akron, OH 44319 on Friday, Sept 22, 2006 at 8:00PM. We're fortunate to have this wonderful facility at our meetings. What in the world would we do if we didn't have it? I'm glad you asked...

Kiwanis Rose Remembrance

Day: The Portage Lakes Kiwanis allows our club to meet in their Civic Center at absolutely zero expense to us. When the arrangements were made, the only stipulation for our continued use of this wonderful facility was that we support their effort to sell roses, the proceeds of which go to charitable causes. The sale of these roses begins on Sept, 18, 2006 and will remain underway when our next meeting occurs. We will be asking the membership to purchase roses at our meeting on Friday, Sept 22nd

2006. The Kiwanis will be leaving us cards to fill out to purchase these roses - which will be delivered anywhere in Summit County on Saturday, October 7, 2006. The charge for a dozen roses remains at \$15.00...and that includes delivery! Not a bad deal, now, is it!? Please try to find it in your hearts to support the Kiwanis - and keep them happy that they allow us to use their facility (at no charge).

If you want to purchase a dozen (or more!) roses, please bring either CASH or a CHECK made out to the 'Astronomy Club of Akron'. Our illustrious and multi-talented treasurer, Steve Rohweder, will accept the payments and, in turn, make out a check payable to the Kiwanis Center to cover the total expense of the roses purchased. This method assures the ACA will get credit for the roses purchased. **Remember**, please...if you want to have these roses delivered to that special someone, **be sure** to bring their complete address(es), including ZIP code, with you to the meeting so the order cards can be filled in by you. Our Vice President, John Crilly, or our Treasurer, Steve Rohweder, will deliver the cards and payment to the Kiwanis Center during the week following our meeting.

Something fun to think about...

Early in August, Rosaelena's mother, niece and nephew visited us from Mexico City, MX. They really enjoyed all the astronomical observing we did (and tried to do) including a wonderful night at the observatory during our scheduled public event on Saturday, Aug 5.

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Activities Calendar

Club	Celestial
Sept. 22, ACA General Membership Meeting 8:00 pm	September 7, Full Moon
Sept. 23, Open House and Star Party 8:00 pm	September 22, New Moon
Oct. 21, Open House and Star Party 7:30 pm	October 7, Full Moon
Oct. 27, ACA General Membership Meeting 8:00 pm	October 15-29, Orionid Meteor Shower
	October 22, New Moon

The deadline for article submission is **the second Tuesday after each meeting**. All word processing files should be saved in straight ASCII text files or any version of Word to minimize import problems. We will not turn away **any** submission, as long as the article's subject is astronomy or a related topic. If you don't have access to a computer, don't hesitate to write something out long hand. As long as it is legible, I will slave over the keyboard and get it published.

PLEASE SEND IN YOUR ARTICLES!!!!

Send your articles, items for sale, and comments to: Justin Phillips 402 Crystal St. Akron Ohio
email phillipsaca@gmail.com

(Continued from page 1)

Lots of wonderful views PLUS we had first-light with the fabulous new two-speed Crawford focuser on the 14" SCT in the observatory. We've been struggling with the electric microfocuser – the public, especially, had a tough time with electric focuser – so we got the new model offered by William Optics. Wow, it's wonderful. Oops, back to my story... Rosaelena and I decided to take her family to Amish country and stayed overnight at **The Inn at Amish Door** which was beautiful and quite reasonable during mid-week. It's very close to **The Wilderness Center** in Wilmot, OH. The skies are much darker there than we're used to and we had a great time binocular observing, despite the nearly full moon. Call them at 888-264-7436 or 330-359-7996 or email them at inn@amishdoor.com for details and current room rates. We plan on making another trip down there soon. It really is something special.

While you're in Amish country, be *sure* to stop and see Robert Hershberger at **Time and Optics** located at [6954 County Road 77, Millersburg, OH 44654](http://6954CountyRoad77MillersburgOH44654). His store is just 1.7 miles due south of Mount Hope in the heart of Amish farm country. His hours are Mon-Tue-Wed 7:30am-5:00pm; Thu closed; Fri 7:30am-7:00pm; Sat 7:30am-3:00pm; Sunday closed. He has lots of telescopes, eyepieces, binoculars and accessories. It's nice to be able to see and touch the products before purchasing. Be sure to tell him you're an ACA member – he'll treat you even nicer than he treats everybody else. If you absolutely must call him, dial 330-674-6554 and leave a message...he'll call you back. Robert carries Orion products, Meade, Celestron and some high-end spotting scopes, as well. If he doesn't have what you're looking for, he'll order it for you. Who could ask for more?

Be sure to attend the September meeting; it's our first chance to address Club business after the summer hiatus and there must be plenty to talk about.

We'll have another "different" program this month - a show-and-tell by Solar enthusiasts Dave Jessie and John Crilly which will expand on the Ha narrowband Solar observing equipment discussed in an article in this month's newsletter. On display will be each of the systems described in the article. Although there won't be an opportunity for live demonstrations of Solar observing, you'll have a chance to see what the gear looks like and to ask questions about the use of each piece.

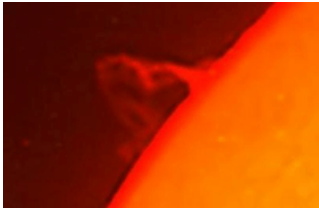
Treasurer's Report: 8/1/06 - 8/30/06

Steve Rohweder, Treasurer

Total Beginning Assets	\$9,691.65
Income	
Interest on balances	\$5.90
Magazine Subscriptions	\$34.00
Expenses	
Telescope	(\$199.00)
Magazine Subscriptions	(\$34.00)
Total Ending Assets	\$9,498.55



Mars Cookie
Created Dec. 2004
By Justin Phillips



Ha Solar observing on a budget

John Crilly
8/20/06

Before the introduction of the annual NEAF solar party in the courtyard, a couple of demonstration Ha-filtered telescopes were usually set up by the side entrance. At my first NEAF, I happened to be passing these during a low-traffic period and took the opportunity to observe the Sun in Ha for the first time. This was in a Tele Vue telescope equipped with a Coronado SolarMax filter and a Tele Vue binoviewer. I was lost from that moment. When I got home, I promptly ordered a Denkmeier binoviewer and a Coronado SM40 filter setup for my TV Genesis SDF. Since then, I've always had an Ha observing system of one kind or another (binoviewers, too - but that's another story!)



That proved to be a very effective system for me. The short focal length of the SDF was ideal for the front-etalon design of the SolarMax filter. The downside was that I hadn't yet discovered heavy-duty alt/az mounts so operating the relatively heavy Tele Vue telescope required setting up a midsized German EQ mount. I found that I did this more and more rarely and in the end I determined that I had too much money tied up in a setup that was rarely used. I sold the Genesis and considered several alternatives. I had an inexpensive 60mm achromat on a lightweight, tracking alt/az mount. I decided to find a less expensive filter that would work with that setup. The 1.5a filter system by Thousand Oaks looked interesting and I knew of a fellow who had one but wanted to upgrade to a Coronado filter like mine. A quick swap (plus a few bucks my way) and we were both in business. The TO filter did work on my lightweight rig but wasn't ideal. Being a rear-etalon system it needed to see a shallow light cone - f/20 or greater. Barlowing the f/11 achromat got me there but the image was fairly dim through the 60mm prefilter and the mount was pretty shaky. The wider bandwidth of the TO filter meant that although prominences were easy to observe, surface detail was lacking. It seemed to be good value for my reduced investment but still didn't get a great deal of use and I eventually sold it.

After the observatory was completed and a 12" LX200 permanently mounted within I decided to seek an Ha filter that would work with that telescope. The long focal length (3000mm) limited me to a rear-etalon system so I bought another Thousand Oaks 1.5a filter plus a 4" prefilter to fit the Meade. This was a nice rig; the 4" prefilter placed the system at about f/30 so no Barlow was required and the filter was much less fiddly. Due to the larger aperture, much more prominence detail was visible on days of exceptional seeing. I figured I was set. Then the decision was made to switch back to a GEM in the observatory so the 12" Meade left, and the Ha filter left with it.

Coronado Personal Solar Telescope

In the meanwhile, Coronado had released a new product that really made narrowband Ha imaging affordable - the PST. Here was a complete sub-Angstrom Ha observing system for \$500! I had pre-ordered one when they announced it, but after trying a pre-production display unit at NEAF and being disappointed, I cancelled it. Later I learned that they had resolved the performance issues and were shipping very effective units. I picked one up and found that it did, indeed, work quite well, offering nice prominence views and much better surface detail than my Thousand Oaks setups had offered. Being a rear-etalon system, it did suffer from the "sweet spot" syndrome common to those arrangements but it was reasonably well centered and not a big issue except for pho-

tography. The PST had other disadvantages for photography also, being limited to a very small blocking filter and having limited focus range. I used the PST for quite a while before acquiring "bandwidth fever". This is similar to aperture fever but the victim is looking for smaller numbers rather than larger ones.



There's a hierarchy of detail visible at the Hydrogen-alpha line depending on the system's bandwidth. A bandwidth of 2 Angstroms or less will display limb prominences but only gross surface detail such as sunspots (which are also visible in whitelight filters). As bandwidth goes below 1 Angstrom finer surface details appear, and as the filter narrows the available detail increases, as does the cost. The PST is rated at "below 1 Angstrom" and offers some fine surface detail. The Coronado SolarMax filters are rated at about .7A and bring out more fine detail with less of a sweet spot. Adding an SM40 filter to a PST brings it down to .6A or less, and stacking two SM series filters gives .5A. The PST and SM40 each have an aperture of 40mm. Other filters are available at 60mm and 90mm, which permit higher magnifications when seeing permits.

I liked the PST (it's a terrific value at \$500) but after looking through a variety of narrower systems I began to feel the desire to narrow things down a bit. The obvious answer was to acquire a doublestacked 60mm Coronado dedicated Ha telescope with a bandwidth of .5A. This is a fine instrument and appears to me to offer the best value for money among the higher-end systems. However, at \$5000 I wasn't quite ready to jump in.

Now comes the complicated part - and the purpose of this article. I needed to decide what would be, for me, the most cost-effective way to achieve a worthwhile upgrade of performance. Some things had changed; I now owned a pretty nice alt/az mount and a quality short refractor that I knew I would be keeping. This meant that I had the option of going with another front-etalon filter system without extra expenses. I also already had the PST so it could be used as the basis for a better system if that proved desirable. I knew that at this point I was willing to remain at the 40mm aperture.

The next level up (down in bandwidth) from the PST is the SolarMax 40mm filter. This can be installed on an existing short refractor, or is available with a dedicated 40mm F/10 telescope. The SM40 filter plus the smallest blocking filter (the BF-5) costs about \$1100 plus about \$150 for an adaptor to fit the etalon to a telescope. The dedicated 40mm telescope with the same etalon but a larger blocking filter (the BF-10) is about \$1700 (the bare filter plus this larger blocking filter is about \$1450). Either way, one is well into the sub-Angstrom range at .7A or less, but at a cost of at least \$750 more than a PST. In addition to the narrower bandwidth, these systems offer conventional focusers and focus range along with a reduced sweet spot effect, giving them a substantial edge for photography. I knew what to expect from such a system, as my very first Ha observing setup was the SM40 and BF-10 blocking filter. The difference in surface detail between such a setup and the PST is substantial.



Double-stacking

The next step down in bandwidth is a double-stacked PST. This requires a PST (\$500) plus an SM40 filter (\$800). For about the price of an SM40/BF-5 combo it offers narrower bandwidth (.6A or less) and includes the optical tube. One is still restricted by the sweet spot issues and limited focus range. The question for me was how noticeable the .6A views would be compared to those at .7A. I picked up another SM40 and tried it on the PST. Wow! Definitely better than the bare SM40. For someone uninterested in photography, or willing to deal with the is-

sues presented by the PST in this area (some terrific DS PST shots have been taken) this is a no-brainer compared to the SM40/BF-5 UNLESS one is considering upgrading further while remaining at 40mm aperture.

One thing that the SM40/BF-5 setup buys one is the option of adding yet another SM40 in front of it, reducing the bandwidth to .5A or less. This is the bandwidth offered by that \$5000 60mm double-stacked MaxScope I mentioned above. For about \$1000 over the cost of the SM40/BF10 one could have much of the performance of the DS 60mm, though of course with less available magnification, resolution, and brightness - without the compromises involved in using the PST as a base.

To recapitulate - the systems available with 40mm aperture are (in order of decreasing bandwidth):

System	Bandwidth	Cost
PST	<1A	\$500
SM40/BF-5	<.7A	\$1250 plus a telescope
DS PST	<.6A	\$1350
DS SM40/BF-5	<.5A	\$2250 plus a telescope

As in all astro gear choices, the best value depends on the individual. Right now I have the PST plus an SM40 that I can use to double-stack it. I also have a BF-5 filter so I can use the SM40 on my AT66 while also using the PST in its normal configuration (tempting for public sessions). After looking at the above table, I think I'll stay right where I am for a while. Eventually I'll probably pick up another SM40 and double-stack that, selling the PST to partially finance the switch.

Hidden Hollow 2006

Once again it is time for the Hidden Hollow Star Party. I invite you all to attend this wonderful event on October 20 and 21. Having been my first star party ever last year I must say it was exciting to be among so many like minded people sharing new and old ideas. If you do not come to Hidden Hollow for anything else please do come just to look through the Richland Astronomical Society's 31 inch Rupp telescope. Information and registration form can be found at the following web addresses.

Hidden Hollow Star Party: <http://www.wro.org/hiddenhollow2006.html>

Registration Form: <http://www.wro.org/HH06rega.pdf>

Warren Rupp Observatory: <http://www.wro.org/index.html>

Registration is being accepted up until October 15th or until 350 registrations are received. There are no registrations accepted at the gate so be sure and send yours in today!

Jason Shinn

Email: truemartian@aol.com

Web Site: <http://members.aol.com/cfaro/index.html>

A Tale of Two Astronomers

Allister St. Claire

Originally published 8/10/2006 on www.cloudynights.com; reproduced here with permission

Once upon a time there lived two amateur astronomers, Alfred and Steve. Alfred and Steve both entered the astronomy hobby 1 year ago. Both purchased their first telescope from the same hobby store in their area. In fact, they purchased the same first telescope, a 90mm f/10 achromat on a sturdy EQ mount with an RA motor drive.

From here our budding astronomers diverge on separate courses through the hobby.

Alfred's Tale

Alfred grabs his observing book and owner's manual and is out observing the first night. He uses the books to teach himself the names of constellations and bright stars. The night sky transforms from a chaos of bright lights to an ordered system of constellations and asterisms. Soon he is able to navigate the skies like he navigates the streets of his town.

Alfred finds the telescope awkward to use at first. There are so many steps to remember; find object in finder, find it in the eyepiece, tighten the RA access, engage the drive and focus the eyepiece. However, as with any skill, practice makes perfect. Soon

the individual steps blur into unconscious movements of his hands.

Alfred graduates to using a star atlas with an accompanying guide. He's now taken to recording his evening observations in a simple log. Double stars are a particular delight. Alfred eagerly scans each constellation on his atlas for double star listings.

Time passes and the telescope becomes like a trusted friend. Alfred knows the magnifications of his 2 eyepieces and barlow by heart. He's able to quickly find any object plotted in his Atlas as long as it's within the light grasp of his telescope. His familiarity with the telescope is now to the point where he doesn't need a light to find the RA and DEC axis locks, motor drive engagement clutch or centering the finder. The telescope has now become an extension of Alfred's desire and skill to observe.

8inch f/6 dob for sale

US optics

Lots of extras

Call Freddy at (330)535-8009

After 1 year Alfred is convinced of two things. First, astronomy is an amazing hobby invoking feelings of awe about the universe. Second, his telescope is the best telescope in the world. Looking back on 12 months of observing with it, the telescope has never let him down.

Steve's Tale

Steve's been involved in a number of hobbies over the years. Like Alfred, he makes an impulse buy. However, unlike Alfred, Steve's smart. He knows it's important to read up on his purchase and the hobby in general. Steve logs online and finds a telescope review site and reads the two reviews on his telescope. With a sinking feeling Steve learns his scope will show secondary color, have an upper magnification ceiling of 140x and is awkward to use due to its long focal length.

Steve spends the first month learning both the constellations and looking for the issues with his scope that the reviews informed him about. With dismay Steve views the secondary color on brighter objects. To determine the extent of the secondary color, Steve views stars of dimmer magnitudes. From this he determines where the threshold is for the secondary color. He also tests the upper magnification of the scope and finds it falls apart at around 130x!

After the first month Steve admits he was a "sucker" on his first telescope purchase. He now reads the telescope review site with a vengeance. He reads and digests review after review. Steve learns optical terms, company names and simple methods for testing the optics of a telescope.

Another month passes. Steve orders his second telescope, a 4" apochromatic refractor on an alt-az mount. Ahhh - this will be the perfect telescope.

The new Apo arrives. A proud Steve is out observing with it the first evening. He hasn't learned the constellations or bright stars yet as he was field testing the sucker telescope for his first month in the hobby. No matter, he will learn them now.

He will as soon as he completes star testing his new APO. Steve's "smart" and doesn't just drop \$3000 on a new telescope without testing the optics. His first night out and Steve realizes that to star test his new APO he will need a driven mount so he can compare the star images with those in his new star testing book.

Back online and a week of reading mount reviews. Steve learns all about drive error, PEC, dual axis drives and other telescope mount terms. An order is placed and several days later his new mount arrives. Out comes his APO for its second night in the backyard (Steve's been busy reading mount reviews) and Steve realizes he will need quality eyepieces for the high magnifications needed for star testing.

Back online and 2 weeks of reading eyepiece reviews

Time passes and Steve's read reviews stating 4" of telescope aperture is too small for "serious" observing. This kicks off not only another round of reading reviews, but now he's intensely engaged in posting on the astronomy forums. Boy, he won't make the mistake of buying a telescope that's too small. Steve's smart.

Over the next year Steve buys, tests and sells an 8" sct, 10" dob, 18" dob, 12" GOTO SCT and a 6" APO. Given that the price commitment for each scope is increasing, Steve reads and researches his potential purchases with greater and greater thoroughness. Test sessions with each telescope take on the atmosphere of a tax audit. With so much money riding on each purchase, Steve must be certain the telescope is without flaws.

After 1 year, Steve is convinced of two things. First, astronomy is an expensive hobby. Second, unless you are "smart", you will be suckered into owning and using some 90mm beginner's scope.

The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Justin Phillips, Editor
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To join the ACA, **or to renew your membership**, please fill out the form below, place in an envelope and mail to the address shown in the return address area of the form.

Please be sure to enclose payment for the membership level desired.

The Astronomy Club of Akron
c/o Steve Rohweder, Treasurer
3981 Meadow Wood Ln
Uniontown, OH 44685-7785

Yes! I want to become a member of the Astronomy Club of Akron

www.acaoh.org
(PLEASE PRINT)

NAME: _____ PHONE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL ADDRESS: _____

Astronomy Club of Akron annual memberships renew in the month of May.

ADULT (ages 18 and older)..... \$30.00

JUNIOR (ages 12 to 17).....\$15.00

ADDITIONAL ADULT member \$15.00

FAMILY MEMBERSHIP\$40.00

I realize the full color version of *The Night Sky* newsletter is available for download by members from our web page at www.acaoh.org, but I would rather have the B&W version mailed to my address via USPS.